Special Issue

Application of Composite Gel in Food Processing and Engineering

Message from the Guest Editors

Composite gels have emerged as powerful tools in the field of food processing and engineering, offering novel solutions to control texture, stability, and functionality in complex food systems. Unlike simple gels, composite gels are engineered with multi-component networks—often integrating proteins, polysaccharides, and other bio-based materials—that deliver enhanced structural and functional properties. These complex gels enable the development of foods with specific textural qualities and stability under various mechanisms, including phase separation, active filler particles, crossing linking networks, interfacial interactions along various processing conditions. As the food industry shifts toward plant-based, functional, and sustainable products, the role of composite gels in food engineering is significantly desired to manipulate and improve overall functionality. Composite gels present unique engineering challenges and opportunities, from the optimization of formulation and processing parameters to the scaling of production methods. We look forward to your contributions, which will shape the future of composite gel applications in food processing and engineering.

Guest Editors

Dr. Xiaoyan Hu

Biopolymers and Colloids Laboratory, Department of Food Science, University of Massachusetts, Amherst, MA 01003, USA

Dr. Lei Zhou

School of Food Science and Technology, Hunan Agricultural University, Changsha 410127, China

Deadline for manuscript submissions

30 September 2025

Gels

an Open Access Journal by MDPI

Impact Factor 5.3
CiteScore 7.6
Indexed in PubMed

mdpi.com/si/223450

Gels
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
gels@mdpi.com

mdpi.com/journal/gels

Gels

an Open Access Journal by MDPI

Impact Factor 5.3
CiteScore 7.6
Indexed in PubMed

mdpi.com/journal/gels

About the Journal

Message from the Editor-in-Chief

Gels (ISSN 2310-2861) is recently established international, open access journal on physical and chemical gel-based materials. The journal aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. General topics include but not limited to synthesis, characterization and applications of new organogels, hydrogels and ionic gels made either from low molecular weight compounds or polymers, composite and hybrid materials where a metal is by some means incorporated into the gel network, and computational studies of these materials in order to provide a better understanding of gelation mechanism. We cordially invite you to consider publishing with us and contribute with your own grain of sand to the advance in this fascinating field.

Editor-in-Chief

Prof. Dr. Esmaiel Jabbari
Biomimetic Materials and Tissue Engineering Laboratory, Department of Chemical Engineering, University of South Carolina, Columbia, SC 29208, USA

Author Benefits

High visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Polymer Science) / CiteScore - Q1 (Organic Chemistry)

Rapid Publication:

manuscripts are peer-reviewed and a first decision is provided to authors approximately 12.5 days after submission; acceptance to publication is undertaken in 2.7 days (median values for papers published in this journal in the first half of 2025).

MDPI